00:00:02 Faculty

Just been in theatre, sorry. So can I hand over this chap? I need to get to another case.

00:00:07 Faculty

So this is Harry Cooper. He's a 28 year old chap who's just been brought in as a trauma call this afternoon about 1:00 o'clock and he was a polytrauma.

00:00:15 Faculty

He fell off his horse and then he was kicked in his abdomen by the horse. No loss of consciousness.

00:00:20 Faculty

In GCS 15, since he was picked up and all the time in the emergency department.

00:00:25 Faculty

Basically, when he came in he was tachycardic and hypotensive and he activated the major haemorrhage protocol.

00:00:32 Faculty

He had one gram of tranexamic acid in the ED and he kept that running from then.

00:00:40 Faculty

So lactate was 4 when he came in, no respiratory or neurological concerns. He went to CT, which showed a splenic laceration.

00:00:49 Faculty

And he had a lot of blood in his abdomen and a small bowel perforation.

00:00:52 Faculty

The right arm showed this humoral fracture, but it's not displaced so nothing has been done about that.

00:00:58 Faculty

And the C-spine was cleared radiologically.

00:01:01 Faculty

CT head normal. So after scan, he went into theatre. He had a trauma laparotomy, midline.

00:01:11 Faculty

They confirmed the splenic rupture and the small bowel perforation, so they did a splenectomy and they resected the perforated segment of small bowel and anastamosed it. And they've left the tummy open because he needs to go back to theatre in a day or so.

00:01:26 Faculty

We reckon he lost about 3 litres of blood on total.

00:01:30 Faculty

He's had two litres of Hartman's in theatre, didn't have anything in the emergency department, had 8 units of red cells. 4 FFP, 2 platelets.

00:01:38 Faculty

He's had a general anaesthetic which was a rapid sequence with ketamine, fentanyl and rocuronium was quite stable.

00:01:45 Faculty

Grade 1 intubation, he's got a size 7 tube tied at 22 centimetres.

00:01:51 Faculty

He's got a left internal jugular, central line and a left radial arterial line and he's got a couple of cannulas as well. The urinary catheter, he has passings urine which has been concentrated.

00:02:03 Faculty

So in terms of other stuff I've given, he's had paracetamol about half an hour ago and he's had a metronidazole also about half an hour ago because he was a bit delayed.

00:02:13 Faculty

I've given him 400 mikes of Fentanyl and I think he's got Fentanyl and propofol running at the moment.

00:02:19 Faculty

He's on a little bit of a noradrenaline, but I think you'll probably be able to ween that down over the next hour or so.

00:02:26 Faculty

Only other abnormality, I've seen a few ventricular ectopics in theatre.

00:02:33 Doctor

Does he have any past medical history?

00:02:37 Faculty

So he's normally pretty fit and well, he had childhood asthma but he's not on any medication for that, no allergies. Social smoker, drinks average amount.

00:02:48 Doctor

So trauma hasn't reviewed his spine?

00:02:53 Faculty

So cleared radiologically but they won't be as clear him I think until he wakes up.

00:02:58 Faculty

I don't think you'll have any problem waking him up, OK?

00:03:03 Faculty

So that's his admission ECG from the emergency department and that's his latest gas from theatre.

00:03:10 Nurse 1

There's nothing on his spine?

00:03:11 Faculty

Rest of the spine is fine. CT head, normal.

00:03:14 Doctor

Why didn't you extubate him?

00:03:16 Faculty

Well, because he's got an open abdomen. He's had a massive transfusion. It's this time of day and I just thought he'll back to theatre tomorrow or the next day.

00:03:25 Faculty

Was that OK? well, good luck. Thanks guys.

00:03:29 Doctor

So the gases, he's a little bit acidotic.

00:03:33 Doctor

More than fine, lactate now is 3.4 he has included that well. Electrolytes are OK, potassium is a bit borderline. Hb is 108 which is good.

00:03:46 Doctor

OK, ECG...more or less normal, I don't see anything that would be at this stage.

00:03:55 Doctor

Shall we do the full blocks, another ECG, I'll request a chest X-ray.

00:04:05 Doctor

Blood gas is here so you do the stuff, the machine is here.

00:04:09 Doctor

I'll examine him and then...

00:04:18 Nurse 1

Just for the ECG that we were gonna do, is there a...

00:04:21 Faculty

If you want me to do an ECG, I can do an ECG. Shall I do an ECG?

00:04:24 Nurse 1

Yes.

00:04:29 Nurse 1

And I'll just have a quick look at the CT.

00:04:31 Faculty

So if there's any more information you want to find I can give it to you.

00:04:49 Doctor

So the plan will be to keep him intubated and we'll see what the surgeons have to say when they come back, we'll go through the obs next, do you want anything specific? I'll give a call to trauma just to make sure.

00:05:11 Faculty

ECG machine is in use, so I'll get one in a bit.

00:05:32 Nurse 2

That's a gas. Thank you.

00:05:46 Doctor

Can you start giving some fluids because it's like it's not clearing, so I'm guessing he's a bit behind.

00:06:03 Nurse 2

If we want to give a fluid bolus...

00:06:05 Faculty

So all infusions, you can go up and down as much as like, the air bags are huge. So as much fluid as you like.

00:06:17 Nurse 1

You've got a map of 99. Do you want me to reduce the noradrenaline?

00:06:19 Nurse 1

Yeah, let's aim for a normal map of 65 to 75.

00:06:24 Nurse 2

I'll just put the oxygen down because it was 19.

00:06:30 Doctor

So that one would be, having minimal sedation, just for coming to 0, if we can ween him that's fine. Overall, safety just for tolerating the tube. That looks fine...we can drain him.

00:06:49 Nurse 1

It's very large.

00:06:52 Nurse 2

And do you know what his res is at the moment?

00:06:59 Doctor

Is he warm and well profused?

00:07:03 Faculty

He is warm, yeah.

00:07:09 Nurse 1

Sat is dropping. Do we need to decrease it?

00:07:14 Faculty

How much did you decrease the oxygen?

00:07:16 Nurse 1

By 10%.

00:07:19 Nurse 2

I'll pop it back up.

00:07:20 Nurse 2

Did the chest sound ok when you had a listen?

00:07:23 Faculty

Yeah, sounded clear.

00:07:33 Nurse 1

His volumes are dropping a little bit as well.

00:07:35 Doctor

Can we get some salbutamol please?

00:07:37 Faculty

I can get that for you. How much salbutamol do you want?

00:07:43 Nurse 2

I'm just gonna pop high proof up for his volumes.

00:07:43 Faculty

Good, OK.

00:07:45 Faculty

How much salbutamol do you want?

00:07:48 Doctor

Yeah, 2.5?

00:08:11 Nurse 1

Was his abdomen...?

00:08:12 Doctor

Yeah, it was fine.

00:08:18 Faculty

Salbutamol here. So that's 2.5.

00:08:22 Doctor

OK, let's give 100%.

00:08:28 Doctor

Can we get some...do we have methal here?

00:08:32 Faculty

If you want methal, I can give it to you.

00:08:35 Doctor

Can I give 2 mg?

00:08:45 Faculty

IV yes, we can dilute 15ml and give it as quick as it goes.

00:08:53 Doctor

Can we hold a chest x-ray? Just to make sure he doesn’t have any more...

00:08:58 Nurse 1

Did we get the results of the gas?

00:09:01 Faculty

Yeah, the gas machine was just calibrating, but I'll...

00:09:07 Nurse 1

OK.

00:09:08 Doctor

Tidal volumes, X-ray is coming...

00:09:11 Nurse 2

We were 470.

00:09:13 Nurse 1

So it would have dropped slightly.

00:09:15 Faculty

I'll see if I can get the X-ray up that we've just had done.

00:09:18 Doctor

So we have fluid running.

00:09:21 Doctor

Sats are fine. Blood pressure is fine. So we're thinking this is a bit of bronchospasm.

00:09:26 Faculty

This is his x-ray.

00:09:38 Doctor

There's a bit of fluid on the right, but I don't see pneumothorax. Heart looks fine.

00:09:51 Nurse 1

Lines are fine. The tube is in the adequate position and CVC is in the adequate position.

00:10:16 Doctor

So I was telling you the chest X-ray doesn't look as pneumothorax, just a bit of fluid. So it's just thinking a bronchospasm, he’s asthmatic.

00:10:30 Doctor

The only other thing to think if he doesn't improve with the salbutamol and the steroids, I think there could be an allergic reaction to something. Can we just check...

00:10:40 Nurse 1

Has he had antibiotics?

00:10:44 Nurse 2

Half an hour ago.

00:10:46 Doctor

So that that's the other bit, could be a bit...

00:10:52 Faculty

So this is the methyl starting now, we'll do 90 mills an hour?

00:10:56 Doctor

Yeah, yeah.

00:11:02 Nurse 2

Yeah, he's also had metronidazole.

00:11:04 Doctor

How long ago?

00:11:07 Nurse 1

Half nine.

00:11:07 Nurse 2

What time is it now?

00:11:10 Faculty

He had that probably two hours ago. Two or three.

00:11:12 Doctor

Two hours. OK, that's good.

00:11:15 Doctor

OK, I'm reducing a bit on the norad.

00:11:24 Doctor

Norad is now five.

00:11:27 Doctor

So we are 100% still?

00:11:30 Nurse 2

Yes.

00:11:40 Doctor

So do you mind taking a gas? Because I really would put that to 3, if he doesn't ventilate well, we'll have to think about...

00:11:50 Nurse 1

Sats, sats are dropping again.

00:11:53 Nurse 1

So is this the X-ray he just had done?

00:11:58 Faculty

He just had it done.

00:12:01 Doctor

I think I will just, well, can you get some rocuronium please? 100mg.

00:12:09 Nurse 2

I'm just putting the high peep up.

00:12:15 Nurse 2

Do we prepare them?

00:12:17 Doctor

I'm gonna get my bolus of sedation. He’s starting to desaturate. Do you want to bolus while I bag him?

00:12:27 Faculty

I can bolus.

00:12:32 Doctor

OK, let's give him 100 mls. And get the rocuronium.

00:12:39 Nurse 1

Yeah, he's got low blood pressure as well.

00:12:43 Nurse 2

His blood pressure is dropping.

00:12:44 Nurse 1

I don't know if you want to go back upon the norad.

00:12:46 Doctor

Yeah.

00:12:50 Doctor

How much is the sat, blood pressure sorry?

00:12:52 Nurse 1

73 systolic.

00:12:54 Nurse 2

I've gone up on the Norad to 10 mil.

00:13:01 Nurse 1

His rhythm is changing. His heart rate is going...

00:13:06 Nurse 1

Is he having a VT?

00:13:08 Doctor

Yeah.

00:13:13 Faculty

Let me just disconnect and put it back up.

00:13:17 Doctor

Thank you. OK, can you call for help? I need some...

00:13:26 Faculty

Yeah, that's quite hard to bag.

00:13:37 Doctor

OK, yeah. Let's start placing the bags.

00:13:41 Nurse 1

Do you think it's...

00:13:44 Doctor

Pneumothorax. Is it?

00:13:47 Nurse 2

I think it's moving this side. My right, sorry.

00:14:01 Doctor

OK. So are you happy to please bag him while I go there?

00:14:14 Faculty

So what are you doing now?

00:14:19 Doctor

I'm gonna decompress the chest...pneumothorax, we’re saying that this side is not moving at all, yes?

00:14:24 Nurse 2

That's what it seems to me.

00:14:47 Faculty

OK. So that's your large port cannula. So which side is it that you’re...

00:14:53 Doctor

This side.

00:15:11 Doctor

I definitely don't hear anything here.

00:15:14 Nurse 1

So left side is moving right side from here, from the bottom. So yeah, left side moving right side is not...

00:15:21 Doctor

Can we suction to make sure that's not a problem?

00:15:31 Nurse 2

I've got the rocuronium there if you want it.

00:15:33 Nurse 1

Yeah. So with bolus.

00:15:35 Nurse 2

10 milligrammes. And norad...

00:15:42 Nurse 1

Not much on the chest.

00:15:44 Doctor

OK, good.

00:15:49 Doctor

I'm gonna check again. I know it's a bit hard.

00:15:56 Nurse 2

Do you want to get another X-ray?

00:15:58 Doctor

No, I don't think we have time for that.

00:16:00 Nurse 2

Ok.

00:16:01 Nurse 1

Sats are still 70. And we’re seeing VT but with blood pressure.

00:16:07 Doctor

That definitely, this is hyperintensive. It's the left one. This is one and two...

00:16:18 Faculty

So the decompression in...

00:16:27 Nurse 2

Am I to bag him again?

00:16:29 Doctor

Yes please.

00:16:30 Nurse 2

It’s coming up.

00:16:31 Doctor

So now we can, now we can ask for...

00:16:35 Nurse 2

Chest x-ray. Ok. Still in VT.

00:16:40 Faculty

We're back on the vent.

00:16:44 Nurse 2

Still with pulse, pressure is coming up, sats are not...

00:16:45 Doctor

OK let's see if he, so he has sustained VT. We can wait to see if this goes away, otherwise we'll have to shock him.

00:17:00 Doctor

The VT, it's more stable, but he's an unstable rhythm. Dou want to push your magnesium? It's not, that's fine.

00:17:12 Doctor

Yeah, I think, yeah...

00:17:17 Nurse 2

Sats are good.

00:17:25 Doctor

OK. So maybe he'll have a bit of a heart condition as well. I mean you have this, now that the sats are fine, ok let's hold the magnesium, he's holding his map. We can wait for that to work in a bit for the other one. If not, we’ll have to shock him.

00:17:49 Nurse 2

Do you mind if I swap onto the defib?

00:17:51 Faculty

Yeah yeah yeah, no no no, please do.

00:17:55 Nurse 1

He still hasn't had the rocuronium, how much did you want him to have?

00:17:58 Doctor

70.

00:17:59 Nurse 1

70.

00:18:14 Nurse 1

What access have we got?

00:18:22 Doctor

What was that, sorry? What are you asking?

00:18:25 Faculty

You've got the leads, you just do it through the pads.

00:18:34 Nurse 2

He's losing cardiac rhythm.

00:18:37 Doctor

OK, so we've changed to the leads. And we don’t have the pads on, we do have the pads...and we have the leads, ok that’s fine.

00:18:47 Faculty

Do you want the amiodorane?

00:18:49 Doctor

Yes, please.

00:18:51 Nurse 1

So rocuronium and magnesium.

00:18:58 Doctor

Yep, we have had the magnesium and amiodarone. We're holding the blood pressure and we'll give him 3 units or so.

00:19:09 Faculty

And you've given roc haven't you?

00:19:11 Doctor

Yes, I've given it.

00:19:14 Doctor

We're at 13 of NORAD.

00:19:19 Doctor

No, that's, I think we can shock him while everything goes on and that will help with the stability, because I'm just worried that we'll just collapse.

00:19:27 Doctor

OK, so let's charge to an adult.

00:19:36 Nurse 2

But we've lost our blood pressure.

00:19:39 Doctor

OK. Yeah.

00:19:40 Doctor

We're going to charge.

00:19:42 Doctor

Everyone out, I'm gonna shock, yes.

00:19:48 Doctor

Yeah, better. OK. Do we have blood pressure?

00:19:54 Nurse 2

Just a bit.

00:19:59 Doctor

Well, this could happen again.

00:20:20 Doctor

So we decompressed, but we have to put a chest drain so can either of you prepare a chest drain for me please?

00:20:27 Nurse 2

Do we have specific...

00:20:32 Doctor

Do you want to do ABG?

00:20:38 Doctor

Ok, they'll be stable, his oxygen, do you want to have a look and see if we have his bloods back? See if there’s something else to top up. Can you give some calcium please?

00:20:47 Faculty

Calcium, it should be like just with calcium chloride or calcium fluid.

00:21:05 Doctor

After the drain.

00:21:12 Faculty

What is it you're interested in?

00:21:15 Doctor

Electrolytes.

00:21:17 Faculty

I think certainly, the bloods you have sent off are not back yet.

00:21:21 Doctor

You haven't had that much time. OK. OK.

00:21:24 Nurse 1

ABG.

00:21:26 Doctor

Ok, ABG to check the Hb.

00:21:43 Doctor

So I'll give a call for chest x-ray just to make sure we can put a chest drain.